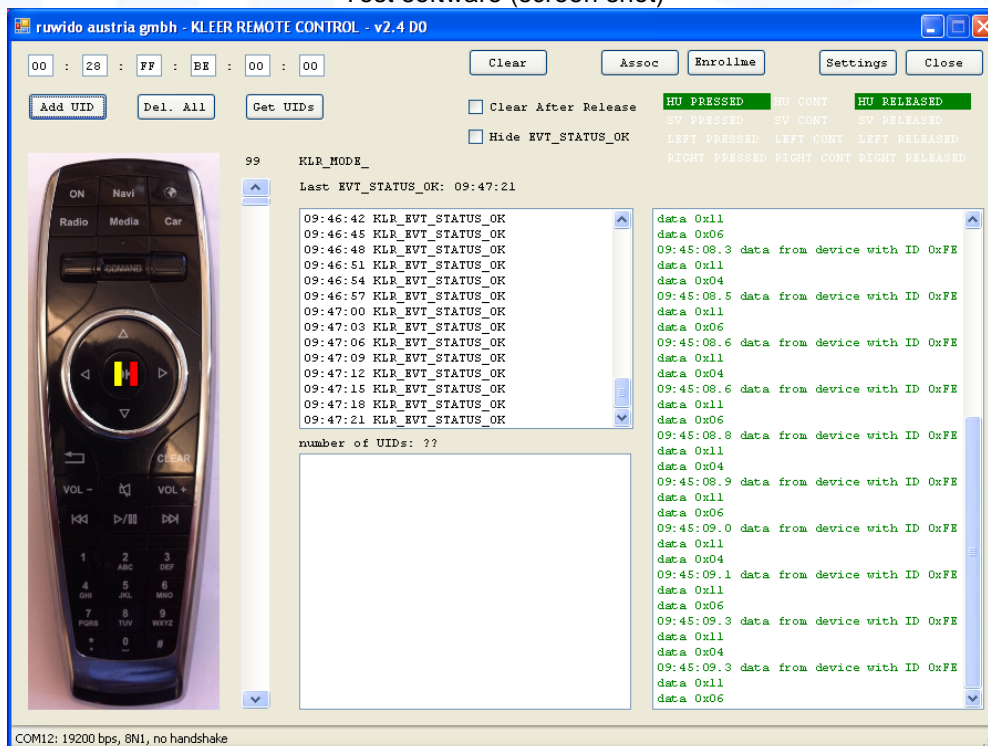


3.2 Photo of the test setup



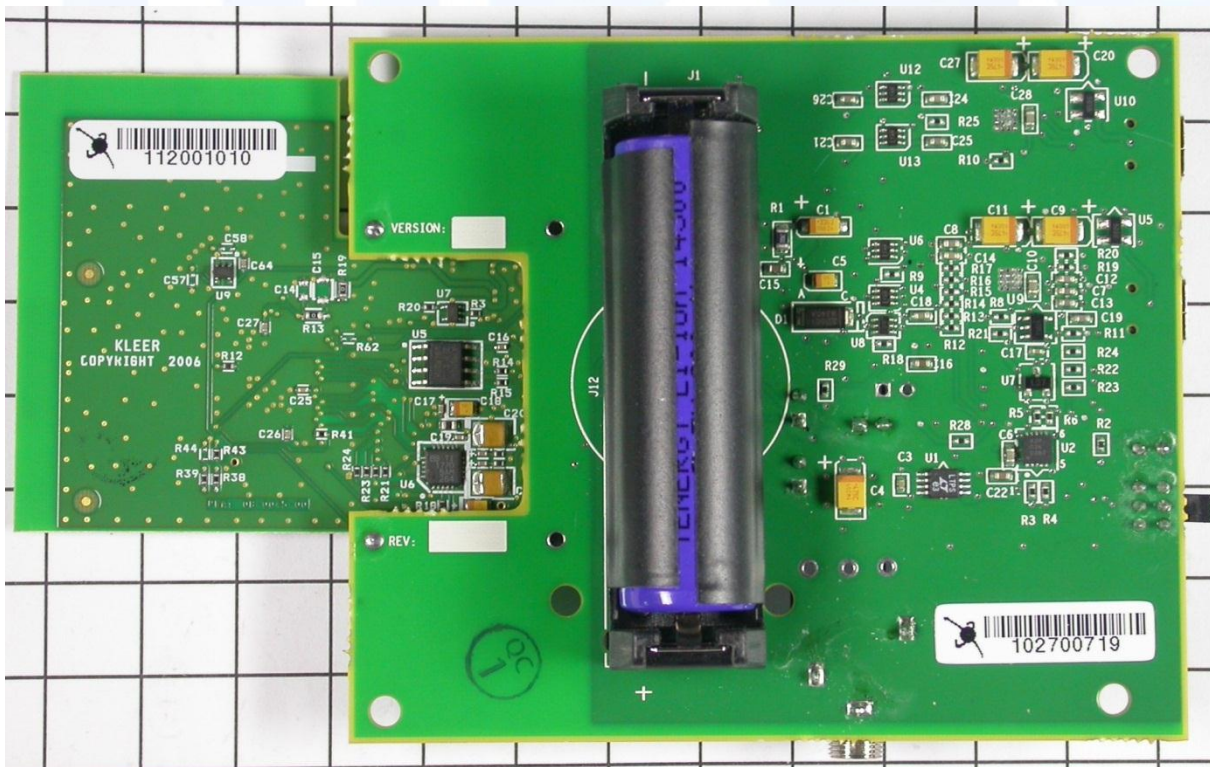
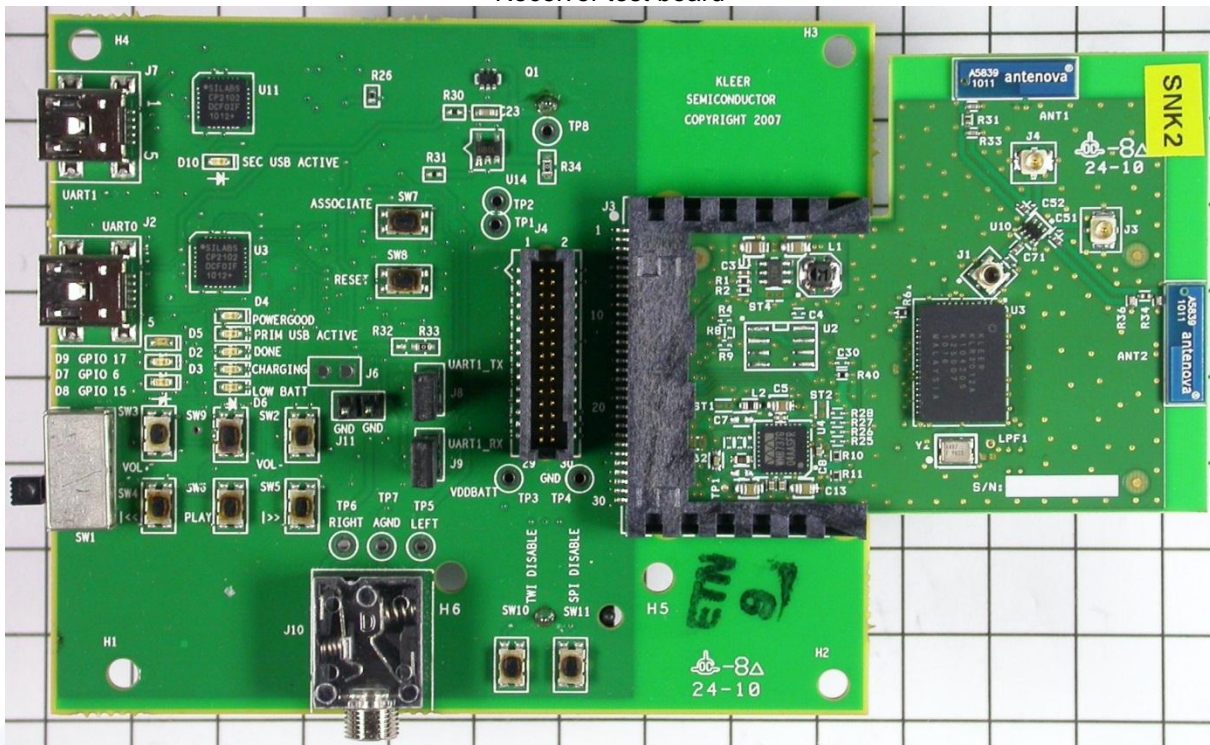
Test software (screen shot)



FCC ID: XYN2738

IC: 8748A-2738

Receiver test board



5.2 Radiated emission of the fundamental wave

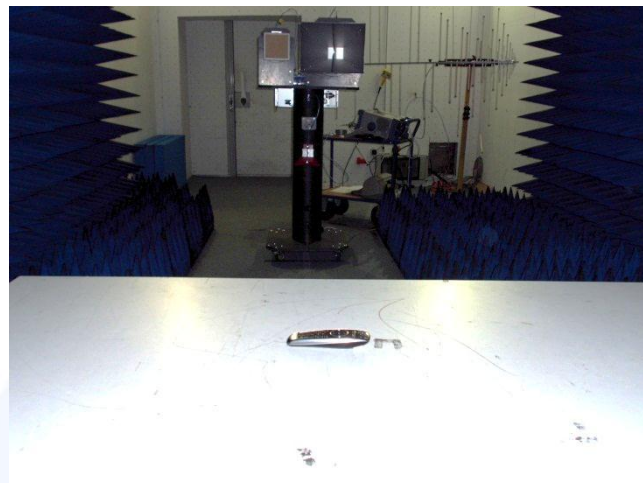
For test instruments and accessories used see section 6 Part CPR 3.

5.2.1 Description of the test location

Test location: Anechoic chamber 2

Test distance: 3m

5.2.2 Photo documentation of the test set-up



5.2.3 Applicable standard

According to FCC Part 15C, Section 15.249(a):

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the effective limits.

5.2.4 Description of Measurement

The radiated emission of the fundamental wave from the EUT is measured using a spectrum analyser and appropriate linear polarized antennas.

Analyser settings:

Peak measurement: RBW: 1 MHz

VBW: 3 MHz

Detector: Max peak

5.2.5 Test result

Channel	Frequency (MHz)	Reading level PK (dB μ V)	Reading level AV (dB μ V)	Bandwidth (kHz)	Correction factor (dB)	Corrected level PK dB(μ V/m)	Corrected level AV dB(μ V/m)	Limit AV dB(μ V/m)	Delta (dB)
0	2403	102.4	-	1000	-10.5	91.9	-	94.0	2.1
9	2443	102.6	-	1000	-10.4	92.2	-	94.0	1.8
15	2478	103.1	-	1000	-10.0	93.1	-	94.0	0.9

Note: The correction factor includes cable loss and antenna factor.

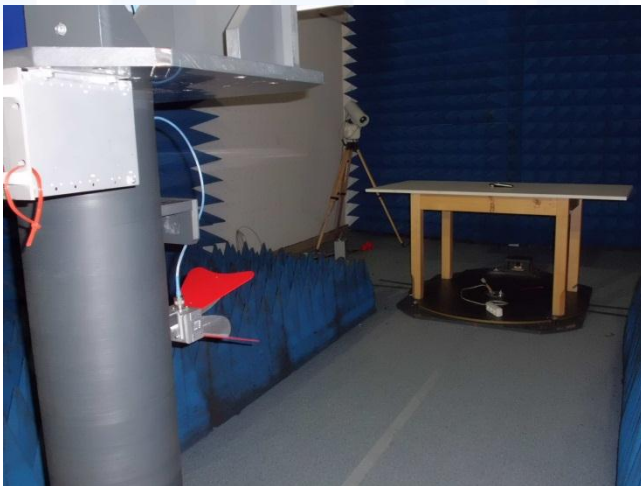
5.3 Spurious emissions radiated

For test instruments and accessories used see section 6 Part **SER1, SER 2, SER 3.**

5.3.1 Description of the test location

Test location: OATS 1
Test location: Anechoic chamber 2
Test distance: 3 m

5.3.2 Photo documentation of the test set-up



5.3.1 Applicable standard

According to FCC Part 15C, Section 15.249 (d):

Emission radiated outside of the specified frequency bands, except harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated limit in FCC Part 15C, Section 15.209, whichever is the lesser attenuation.

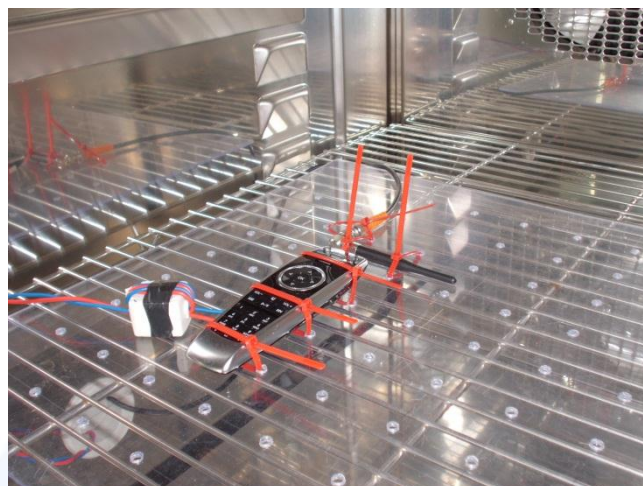
5.4 20 dB bandwidth

For test instruments and accessories used see section 6 Part MB.

5.4.1 Description of the test location

Test location: AREA4

5.4.2 Photo documentation of the test set-up



5.4.3 Applicable standard

According to FCC Part 15, Section 15.215(c):

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in Section 15.217 through Section 15.257, must be designed to ensure that the 20 dB bandwidth of the emission is contained within the frequency band designated in the rule section under which the equipment is operated.

5.4.4 Description of Measurement

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio of -20 dB. The reference level is the level of the highest signal amplitude observed from the transmitter at the fundamental frequency. Alternative is the x-dB-down function of the analyser used. The EBW is than directly shown in the marker display. The measurement is performed with normal modulation and a transfer rate means the worst case.

Spectrum analyser settings:

RBW: 100 kHz

VBW: 300 kHz

Span: 10 MHz

Sweep time: 10 s

Detector: PK

5.4.5 Test result

Operating frequency band (MHz)	20 dB Bandwidth Channel 0 (MHz)	20 dB Bandwidth Channel 9 (MHz)	20 dB Bandwidth Channel 15 (MHz)
$f_{\text{low}} > 2400$	$f_{\text{low}} = 2400.63$	$f_{\text{low}} = 2441.50$	$f_{\text{low}} = 2475.59$
$f_{\text{high}} < 2483.5$	$f_{\text{high}} = 2404.49$	$f_{\text{high}} = 2444.56$	$f_{\text{high}} = 2480.48$

80% bandwidth of the permitted band: 66.8 MHz

Maximum frequency drift under extreme conditions: 73 kHz

5.5 Correction for pulse operation (duty cycle)

For test instruments and accessories used see section 6 Part DC.

5.5.1 Description of the test location

Test location: AREA4

5.5.2 Photo documentation of the test set-up



5.5.3 Applicable standard

According to FCC Part 15A, Section 15.35(c):

When the radiated emission limits are expressed in terms of average value and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete puls train, including blanking intervals, as long as the pulse train does not exceed 0.1s. In cases where the puls train exceeds 0.1s, the measured field strength shall be determined from the average absolute voltage during a 0.1s interval during which the field strength is at its maximum. The exact method of calculating the average field strength shall be submitted.

5.5.4 Description of Measurement

The duty cycle factor (dB) is calculated applying the following formula:

$$KE = 20 \log ((tiB \cdot p) / Tw) = 20 \log ((0.0885 \cdot 4) / 100) = -49.0 \text{ dB}$$

KE	pulse operation correction factor	(dB)
tiw	pulse duration for one complete pulse track	(ms)
tiB	pulse duration for one pulse	(ms)
Tw	a period of the pulse track	(ms)
p	number of pulses in one train	

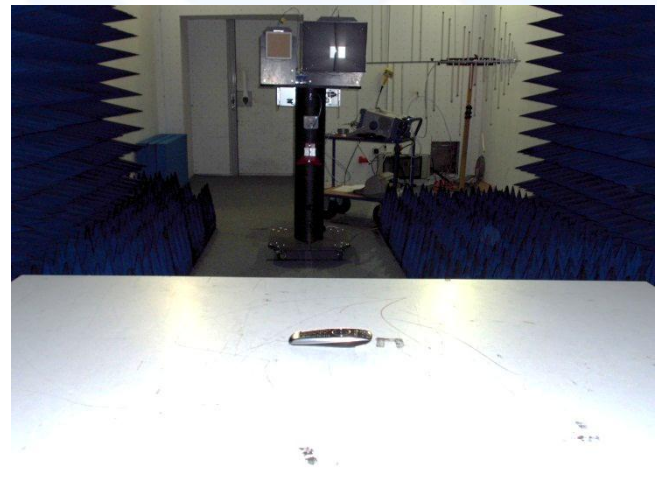
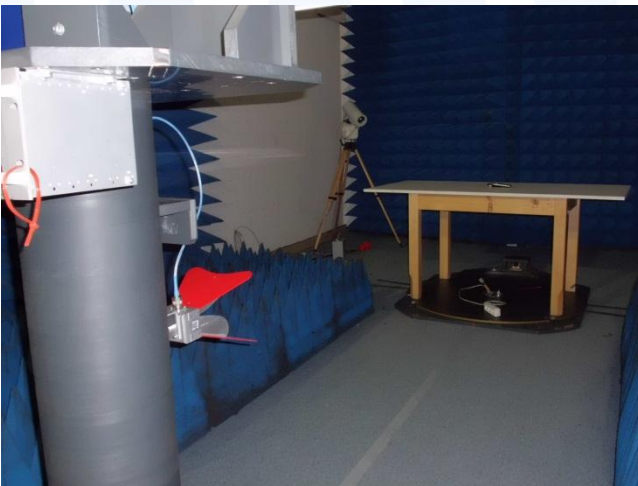
5.7 Receiver radiated emissions

For test instruments and accessories used see section 6 Part **SER1**, **SER2** and **SER3**.

5.7.1 Description of the test location

Test location: OATS 1
Test location: Anechoic chamber 2
Test distance: 3 m

5.7.2 Photo documentation of the test set-up



5.7.3 Applicable standard

According to FCC Part 15C, Section 15.109(a):
Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 m shall not exceed the given limit.